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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/710,694	07/29/2004	Yung-Hui Wang		4693

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PATEN WIRELESS TECHNOLOGY INC.
2F-4, NO. 148, SEC. 4, CHUNG HSIAO EAST ROAD
TAIPEI,
TAIWAN

EXAMINER	
BECK, ALEXANDER S	

ART UNIT	PAPER NUMBER
2629	

DATE MAILED: 11/24/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/710,694	WANG, YUNG-HUI	
	Examiner	Art Unit	
	Alexander S. Beck	2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 July 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-5* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-5* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *29 July 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☒ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Taiwan on August 20, 2003. It is noted, however, that applicant has not filed a certified copy of the 092215133 application as required by 35 U.S.C. 119(b).

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. **Claims 1,3 and 4** are rejected under 35 U.S.C. 102(b) as being anticipated by Cheng (U.S. Publication No. 2003/0025671 A1, hereinafter CHENG).

As to independent **Claim 1**, CHENG teaches/suggests a ball-actuated optical mouse (50) in **Figures 5-9** comprising:

a housing (58), said housing comprising a base (52), said base comprising an upright open chamber (80), a top cover covered on a top side of said base, said top cover comprising a plurality of operation buttons (see **Figure 5**), and an annular bottom cap covered on a bottom side of said base corresponding to a bottom side (52) of said upright open chamber (see **Figure 6**) (CHENG: pg. 2, par. [0023-0026]);

a ball and roller unit (60/62/63) mounted in said base inside said housing, said ball and roller unit comprising a ball (60) mounted inside said upright open chamber and partially peripherally protruding over said annular bottom cap for friction contact with a flat surface (100) (CHENG: pg. 2, par. [0023-0026]); and

an optical unit (70/72/74/90/92/93/94) mounted inside said housing and adapted to detect the direction and amount of movement of said ball in said upright open chamber, said optical unit comprising a circuit board (70) supported on said base, a light source (74) controlled by said circuit board to emit light toward said ball, an image sensor (72) adapted to pick up reflected light from said ball and to convert received reflected light into an electric signal indicative of direction and amount of movement of said ball in said upright open chamber, and a refractor (90/92/93/94) adapted to refract light from said light source onto said ball and to focus reflected light from said ball onto said image sensor (CHENG: pg. 2, par. [0023-0026]).

As to Claim 3, CHENG teaches/suggests wherein said circuit board (70) has an opening (78); said image sensor (72) is installed in said circuit board above said opening (CHENG: pg. 2, par. [0024]).

As to Claim 4, CHENG teaches/suggests wherein said ball and roller unit (60/62/63) further comprises a plurality of rollers (62/63) pivotally mounted in said base inside said housing and respectively peripherally maintained in friction contact with said ball (CHENG: pg. 2, par. [0024]).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng (U.S. Publication No. 2003/0025671 A1) in view of Venkat et al. (U.S. Patent No. 6,421,045 B1, hereinafter VENKAT).

As to Claim 2, CHENG illustrates in Figure 9 wherein said circuit board (70) is provided above said upright open chamber, which is fasted to the base (52) and which houses the ball (60).

CHENG does not disclose expressly wherein said base comprises a plurality of upright supports that support said circuit board above said upright open chamber.

VENKAT, analogous in art with CHENG, teaches/suggests a mouse in Figure 2 wherein a base (40) comprises a plurality of upright supports (42) that support a circuit board (36) above an opening of the base (VENKAT: col. 4, ln. 1-8).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of CHENG such that the base comprised a plurality of upright supports that support the circuit board above the base, as taught/suggested by VENKAT, wherein the circuit board is provided above the upright open chamber.

The suggestion/motivation for doing so would have been to rigidly align the circuit board above the base plate in a mouse assembly (VENKAT: col. 4, ln. 1-8).

6. **Claim 5** is rejected under 35 U.S.C. 103(a) as being unpatentable over Cheng (U.S. Publication No. 2003/0025671 A1) in view of Imanishi et al. (JP Publication No. 11-219257 A, hereinafter IMANISHI).

As to **Claim 5**, note the above discussion with respect to CHENG, wherein the circuit board (70) controls (i.e. provides power to) the light source (74) of the optical unit.

CHENG does not disclose expressly wherein said optical unit further comprises a sensor switch electrically connected to said circuit board and adapted to detect the operation of said rollers and to drive said circuit board to control power supply to said light source subject to the operation status of said rollers.

IMANISHI, analogous in art with CHENG and as best understood by the Examiner, teaches/suggests a mouse comprising a sensor switch (3) electrically connected to driving means of the mouse and adapted to detect the operation of a roller (8) and to drive the driving means of the mouse to control power supply to the mouse subject to the operation status of the roller (IMANISHI: abstract translation).

At the time the invention was made, it would have been obvious to a person of ordinary skill in the art to modify the teachings of CHENG such that a sensor switch was provided and electrically connected to driving means of the mouse (i.e. circuit board of CHENG) and adapted to detect the operation of a roller (i.e. rollers in CHENG) and to drive the driving means of the mouse (i.e. circuit board of CHENG) to control power supply to the

mouse (e.g. light source in CHENG) subject to the operation status of the roller (i.e. rollers in CHENG), as taught/suggested by IMANISHI.

The suggestion/motivation for doing so would have been to achieve power conservation (IMANISHI: abstract translation).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Sun et al. (U.S. Patent No. 7,071,922 B2) discloses an optical mouse with rolling ball.

Yu (U.S. Publication No. 2002/0101403 A1) discloses a two-axis cursor control apparatus.

Selby et al. (U.S. Publication 2005/0162390 A1) discloses an electronic pointing or cursor control device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Alexander S. Beck** whose telephone number is **(571) 272-7765**. The examiner can normally be reached on M-F, 8AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Sumati Lefkowitz** can be reached on **(571) 272-3638**. The fax phone number for the organization where this application or proceeding is assigned is **571-273-8300**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

asb
11/13/06

SUMATI LEFKOWITZ
SUPERVISORY PATENT EXAMINER